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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,212	12/05/2003	Gregory T. Huber	C-586	2475

7590 09/11/2006

Sun Chemical Corporation
222 Bridge Plaza South
Fort Lee, NJ 07024

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No. 10/730,212	Applicant(s) HUBER ET AL.	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/8/04 & 6/17/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-6 and 10-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Each of claims 4-6 recite the “average molecular weight” of the polymeric dispersant.

The scope of each the claims is confusing given that it is not clear what type of average molecular weight is being claimed, i.e. weight average, number average, etc.

(b) Claim 10 recites a “method for reducing the viscosity of an energy curable printing ink by adding the compound of claim 1” while claim 11 recites a “method of increasing the gloss of an energy curable printing ink by adding the compound of claim 1”. The scope of each of the claims is confusing given that neither claim sets forth any steps involved in the method/process and thus, it is not clear what method is encompassed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 1714

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman et al. (U.S. 5,180,802) in view of Vickers, Jr. et al. (U.S. 6,429,266) and either Paulson et al. (U.S. 6,114,430) or Walker (U.S. 5,576,416).

Hartman et al. disclose compound that is reaction product of polycarboxylic acid such as trimellitic acid anhydride, i.e. 1,2,4-benzenecarboxylic acid anhydride, with polyetheramine such

as polyoxyethylene amine or polyoxypropylene amine (col.3, lines 6-21, col.6, lines 23-25, and col.7, lines 24-25).

While Hartman et al. disclose the use of polyoxyethylene amine or polyoxypropylene amine, there is no disclosure of specific type of polyoxyalkylene amine as presently claimed.

Paulson et al. disclose the use of polyetheramide that is the reaction product of polycarboxylic acid and polyoxyalkylene amine known under the tradename Jeffamine M-2005 wherein such polyoxyalkylene amine is utilized in order to produce lower molecular weight product with reduced melt temperature and increased water-solubility (col.7, lines 9-19, col.8, line 11, and col.14, lines 57-60). It is noted that Jeffamine M-2005, as found in Vickers, Jr. et al., is identical to polyoxyalkylene amine known under the tradename XTJ-507 which is identical to the polyoxyalkylene amine utilized in the present invention.

Alternatively, Walker disclose reacting polycarboxylic acid with poly(alkylene oxide) amine known under the tradename Jeffamine M-2005 in order to produce product with low viscosity that functions as an effective stabilizer (col.4, lines 6-10, 29-35, and 51). It is noted that Jeffamine M-2005, as found in Vickers, Jr. et al., is identical to polyoxyalkylene amine known under the tradename XTJ-507 which is identical to the polyoxyalkylene amine utilized in the present invention.

Given that combination of Hartman et al. with Paulson et al. or Walker discloses reacting 1,2,4-benzenetricarboxylic acid with polyoxyalkylene amine identical to that presently claimed and utilized in the present invention, it is clear that the resulting compound would intrinsically possess structure as presently claimed and intrinsically possess average molecular weight as presently claimed.

It is noted that there is no disclosure in Hartman et al., Paulson et al., or Walker that the compound is a polymeric dispersant as required in present claim 1 or claim 12, energy curable printing ink polymeric dispersant additive as required in present claim 14, viscosity reducing printing ink polymeric dispersant additive as required in present claim 15, or gloss increasing energy curable printing ink polymeric dispersant additive as required in present claim 16.

However, on the one hand, give that combination of Hartman et al. with Paulson et al. or Walker discloses reacting 1,2,4-benzenetricarboxylic acid with polyoxyalkylene amine identical to that presently claimed, it is clear that such product would intrinsically function as polymeric dispersant, energy curable printing ink polymeric dispersant additive, viscosity reducing printing ink polymeric dispersant additive, or gloss increasing energy curable printing ink polymeric dispersant additive as presently claimed.

On the other hand, while there is no disclosure that the compound of Hartman et al. in combination with Paulson et al. or Walker is a polymeric dispersant, energy curable printing ink polymeric dispersant additive, viscosity reducing printing ink polymeric dispersant additive, or gloss increasing energy curable printing ink polymeric dispersant additive as presently claimed, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference

between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use recited in the present claims does not result in a structural difference between the presently claimed compound and the prior art compound and further that the prior art structure which is identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use specific polyoxyalkylene amine disclosed by Paulson et al. or Walker as the polyetheramine in Hartman et al. in order to produce compound with lower molecular weight and increased water-solubility, or alternatively, produce compound with low viscosity that functions effectively as stabilizer, and thereby arrive at the claimed invention.

6. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahmud et al. (U.S. 5,747,562) in view of Hartman et al. (U.S. 5,180,802), Vickers, Jr. et al. (U.S. 6,429,266) and either Paulson et al. (U.S. 6,114,430) or Walker (U.S. 5,576,416).

Mahmud et al. disclose aqueous or non-aqueous printing ink or energy curable ink that comprises rheological additive (col.2, lines 33-36, 43-45, and 49-50 and col.3, lines 20-21).

The difference between Mahmud et al. and the present claimed invention is the requirement in the claims of presently claimed compound.

Hartman et al. disclose rheological additive that is reaction product of polycarboxylic acid such as trimellitic anhydride, i.e. 1,2,4-benzenecarboxylic acid anhydride, with polyetheramine such as polyoxyethylene amine or polyoxypropylene amine in order to improve sag or slump control and provide shearthining (col.2, lines 40-43, col.3, lines 6-21, col.6, lines 23-25, col.5, lines 16-21, and col.7, lines 24-25).

While Hartman et al. disclose the use of polyoxyethylene amine or polyoxypropylene amine, there is no disclosure of specific type of polyoxyalkylene amine utilized.

Paulson et al. disclose the use of polyetheramide that is the reaction product of polycarboxylic acid and polyoxyalkylene amine known under the tradename Jeffamine M-2005 wherein such polyoxyalkylene amine is utilized in order to produce lower molecular weight product with reduced melt temperature and increased water-solubility (col.7, lines 9-19, col.8, line 11, and col.14, lines 57-60). It is noted that Jeffamine M-2005, as found in Vickers, Jr. et al., is identical to polyoxyalkylene amine known under the tradename XTJ-507 which is identical to the polyoxyalkylene amine utilized in the present invention.

Alternatively, Walker disclose reacting polycarboxylic acid with poly(alkylene oxide) amine known under the tradename Jeffamine M-2005 in order to produce product with low viscosity that functions as an effective stabilizer (col.4, lines 6-10, 29-35, and 51). It is noted that Jeffamine M-2005, as found in Vickers, Jr. et al., is identical to polyoxyalkylene amine known under the tradename XTJ-507 which is identical to the polyoxyalkylene amine utilized in the present invention.

Given that combination of Hartman et al. with Paulson et al. or Walker discloses reacting 1,2,4-benzenetricarboxylic acid with polyoxyalkylene amine identical to that presently claimed

and utilized in the present invention, it is clear that the resulting compound would intrinsically possess structure as presently claimed.

It is noted that there is no disclosure in Hartman et al., Paulson et al., or Walker that the reaction product is a polymeric dispersant or reduces viscosity or increases gloss of energy curable printing ink.

However, on the one hand, give that combination of Hartman et al. with Paulson et al. or Walker discloses reacting 1,2,4-benzenetricarboxylic acid with polyoxyalkylene amine identical to that presently claimed, it is clear that such product would intrinsically function as polymeric dispersant as presently claimed and intrinsically reduce viscosity or increase gloss as presently claimed.

On the other hand, while there is no disclosure that the product of Hartman et al. in combination with Paulson et al. or Walker is a polymeric dispersant or reduces viscosity or increases gloss of energy curable printing ink presently claimed, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use recited in the present claims does not result in a structural difference between the presently claimed compound and the prior art compound and further that the prior art structure which is identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use compound disclosed by Hartman et al. in combination with Paulson et al. or Walker in Mahmud et al. in order to produce ink with improved sag or slump control and shearthining, and thereby arrive at the claimed invention.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Padget et al. (U.S. 5,021,544) disclose polyester obtained from trimellitic anhydride that is modified with polyether amine.

Yun et al. (U.S. 5,034,444) disclose compound produced by reacting alkoxyated aliphatic nitrogen containing compound and polycarboxylic anhydride.

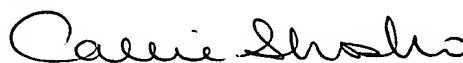
Speranza et al. (U.S. 5,239,048) disclose compound that is reaction product of polyoxyalkylene diamine and trimellitic anhydride.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

Art Unit: 1714

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
9/2/06